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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,677	01/08/2002	Koji Watanabe	ASAM.0034	9046

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EXAMINER

LY, NGHI H

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 07/26/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/038,677

Applicant(s)

WATANABE ET AL.

Examiner

Nghi H. Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to because of the following informalities: a period "." should have at the end of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 11-15 and 16 are rejected under 35 U.S.C. 102(a) as being anticipated by Camp, Jr. et al (US 6,057,987).

Regarding claims 1, 11, 12 and 16, Camp teaches a location calculation method for calculating (see Abstract), by using propagation delay time of signals received from a plurality of wireless transmitters (see column 1, lines 23-30), a location of a reception point of receiving the signals (see column 1, lines 15-22), comprising: a first step of measuring reception timing of signals received from said wireless transmitters (see column 7, lines 31-58), a second step of estimating (see column 7, lines 31-58), according to results of measurement of the reception timing obtained by said first step (see column 3, lines 30-44), an erroneous result of measurement (see column 3, lines 30-44), and a third step of removing the results of measurement estimated as the erroneous results by the second step from the results of measurement of the reception

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timing obtained by said first step (see column 3, lines 40-44), and thereby calculating the location of said reception point (see column 1, lines 5-14).

Regarding claim 13, Camp further teaches calculating, according to propagation delay time of signals received from the points, the location of the reception point of the signal (see column 1, lines 23-30).

Regarding claim 14, Camp further teaches the points are wireless transmitters (see fig.1, wireless connection between user terminal 10 and base station 20).

Regarding claim 15, Camp further teaches the computer serves as a location calculating apparatus (see column 7, lines 31-58).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camp, Jr. et al (US 6,057,987) in view of James et al (US 6,683,568).

Regarding claims 2 and 6, Camp teaches a location calculation method for calculating according to claim 1. Camp does not specifically disclose the second step includes estimating, according to a result of a comparison between an S/N ratio of a signal for which the reception timing is measured and a predetermined threshold value, the result of measurement regarding the signal as an erroneous result of measurement.

James teaches the second step includes estimating, according to a result of a comparison between an S/N ratio of a signal for which the reception timing is measured and a predetermined threshold value, the result of measurement regarding the signal as an erroneous result of measurement (see column 8, line 61 to column 9, line 11).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to provide the teaching of James into the system of Camp so that error minimization technique may be used for locating an object.

7. Claims 3-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Camp, Jr. et al (US 6,057,987) in view of Wang et al (US 6,369,756).

Regarding claim 3, Camp teaches determining a standard wireless transmitter among a plurality of wireless transmitters from which signals are received by the reception point (see Camp, fig.1, transmitter 16 and 20).

Camp does not specifically disclose the second step includes estimating, according to a result of a determination whether or not a triangle is formed using distance between the reception point and the standard wireless transmitter, distance between the reception point and a wireless transmitter used as an object of the estimation, and distance between the standard wireless transmitter and the wireless transmitter used as an object of the estimation, that the result of measurement of any wireless transmitter used as an object of the estimation not satisfying the triangle forming condition is an erroneous result of measurement.

Wang teaches the second step includes estimating, according to a result of a determination whether or not a triangle is formed using distance between the reception point and the standard wireless transmitter, distance between the reception point and a wireless transmitter used as an object of the estimation (see column 8, lines 32-44), and distance between the standard wireless transmitter and the wireless transmitter used as an object of the estimation, that the result of measurement of any wireless transmitter used as an object of the estimation not satisfying the triangle forming condition is an erroneous result of measurement (see column 13, line 39-67).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to provide the teaching of Wang into the system of Camp

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in order to employ an antenna array beam-forming technique based on a signal quality metric rate of change (see Wang, column 8, lines 42-44).

Regarding claims 4 and 5, the combination of Camp and Wang further teaches the result of measurement regarding the wireless facility as an erroneous result of measurement (see Camp, column 7, lines 31-58) and a plurality of sectors each of which is formed by the wireless transmitter constitute a wireless facility (see Wang fig.4), and the second step includes estimating, according to a result of a comparison between a result of measurement of distance regarding each sector of one wireless facility and a predetermined threshold value (see Wang, column 8, lines 32-44 and column 13, line 39-67).

Regarding claims 7 and 8, the combination of Camp and Wang further teaches a step of calculating a direction of a wireless transmitter from the reception point, wherein said second step selecting wireless transmitters existing within a predetermined angle by using the direction of the wireless transmitter as a standard direction (see Wang, column 8, lines 32-44), obtaining difference between distance between the reception point and a first wireless transmitter selected as one existing in a near direction and distance between the reception point and a second wireless transmitter, comparing the difference with a predetermined threshold value, and estimating the result of measurement of the wireless transmitter according to a result of the comparison (see Wang, column 8, lines 32-44 and column 13, line 39-67).

Regarding claim 9, Camp further teaches a step of estimating a wireless transmitter nearest to the reception point, removing information associated with a signal

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received from the nearest wireless transmitter and selecting wireless transmitters existing in one direction (see column 3, lines 40-44).

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Camp, Jr. et al (US 6,057,987) in view of Bolgiano et al (US 5,614,914).

Regarding claim 10, Camp teaches a location calculation method for calculating according to claim 1. Camp does not specifically disclose the second step includes calculating a position of the reception point and likelihood by excepting a result of measurement of a particular wireless transmitter, selecting a maximum value of the calculated values of likelihood, comparing the maximum likelihood value with other values of likelihood, and estimating, according to a result of the comparison, the result of measurement of the particular wireless transmitter associated with the maximum likelihood value as an erroneous result of measurement.

Bolgiano the second step includes calculating a position of the reception point and likelihood by excepting a result of measurement of a particular wireless transmitter, selecting a maximum value of the calculated values of likelihood, comparing the maximum likelihood value with other values of likelihood, and estimating, according to a result of the comparison, the result of measurement of the particular wireless transmitter associated with the maximum likelihood value as an erroneous result of measurement (see column 8, lines 10-25).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to provide the teaching of Bolgiano into the system of

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Camp in order to provide a wireless telephone system with time diversity signal transmission for reducing signal fading and measuring subscribes station.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Camp, Jr. et al (US 6,057,987) in view of Layson et al (US 6,405,213).

Regarding claim 17, Camp teaches a control apparatus according to claim 16. Camp dos not specifically disclose the control apparatus is constructed as a semiconductor integrated circuit.

Layson teaches the control apparatus is constructed as a semiconductor integrated circuit (se column 5, lines 1-10).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to provide the teaching of Layson into the system of Camp in order to provide an all body worn low cost subject location record device.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Fitch et al (US 6,212,392) teaches method for determining if the location of a wireless communication device is within a specified area.

b. Loomis (US 5,899,957) teaches carrier phase differential GPS corrections network.

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c. Vanderspool, II (US 6,108,558) teaches method for calculating a location of a remote unit utilizing observed time difference (OTD) and real time difference (RTD) measurement.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (703) 605-5164. The examiner can normally be reached on 8:30 am-5:30 pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nghi H. Ly

NH Ly
07/21/04

Lester G. Kincaid
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PRIMARY EXAMINER